

ABSTRACT OF THE DISCLOSURE

A method and system are provided for comparing data stored in a first storage system with corresponding data stored in a second storage system. In one implementation, the first system generates a random value associated with a respective data block P, and transmits to the second system an identifier associated with the data block P, and the random value. The second system generates a first digest representing a data block B, uses the first digest to encode the random value, producing a first encoded value, and transmits the first encoded value to the first system. The first system generates a second digest representing the data block P, uses the second digest to encode the random value, producing a second encoded value, and compares the first and second encoded values. If the two encoded values are equal, the data block B is a duplicate of the data block P. If the two encoded values are not the same, the data blocks are different. Additionally, a method is provided for synchronizing data stored on a second system to data stored on a first system. In one implementation, a data block P stored on a first system is compared to a data block B stored on a second system, as described above. If the two data blocks are different, the first system transmits a copy of the data block P, and the second system stores the copied data block P.